

IN THE CLAIMS:

Claims 1-2, 4-6, 8, 12, 14 and 16-20 are pending in this application. Please cancel claims 3 and 15 without prejudice or disclaimer, and amend claims 1-2, 4-6, 8, 12, 15-17 and 19, as follows:

1. (Currently Amended) An automatic teller machine (ATM) electronically connected to one or more devices, the one or more devices comprising:

a deposit device configured to receive an initial bank note and a counterfeit bank note which is physically the same bank note after having been identified as a counterfeit bank note at an external station;

an image extraction device ~~having a sensor~~ configured to extract one or more initial images from the initial bank note ~~using the sensor~~ and ~~extract~~ one or more ~~second~~ images from the counterfeit bank note ~~using the same sensor~~;

a transaction log device configured to attach a transaction log to the to the one or more initial images of the initial bank note;

a comparison device configured to compare the one or more initial images of the initial bank note to the one or more ~~second~~ images of the counterfeit bank note in order to obtain a comparison result, the comparison device being configured to calculate values indicating the degree of similarity between the initial bank note and the counterfeit bank note as said comparison result; and

a retrieval device for tracing the counterfeit bank note, which is configured to retrieve the transaction log attached to the initial bank note, if comparison device determines that the one or more initial images of the initial bank note ~~and the one or more second images of the counterfeit bank note~~ are within the range of similarity to the one or more images of the counterfeit bank note.

2. (Currently Amended) The automatic teller machine of Claim 1, the one or more devices further comprising at least one of:

a storage device configured to store the one or more initial images of the initial bank note, the one or more ~~second~~ images of the counterfeit bank note and the transaction log; and

a network link to an external storage device configured to store the one or more initial images of the initial bank note, the one or more ~~second~~ images of the counterfeit bank note and the transaction log.

3. (Canceled).
4. (Currently Amended) An automatic teller machine (ATM) electronically connected to one or more devices according to claim 1, ~~the one or more devices comprising:~~
 ~~a deposit device configured to receive an initial bank note and a counterfeit bank note which is physically the same bank note after having been identified as a counterfeit bank note at an external station;~~
 ~~an image extraction device having a sensor configured to extract one or more initial images from the initial bank note using the sensor and extract one or more second images from the counterfeit banknote using the same sensor;~~
 ~~a transaction log device configured to attach a transaction log to the to the one or more initial images;~~
 ~~a comparison device configured to compare the one or more initial images of the initial bank note to the one or more second images of the counterfeit bank note in order to obtain a comparison result; and~~
 ~~a retrieval device for tracing the counterfeit bank note, which is configured to retrieve the transaction log attached to the initial bank note, if comparison device determines that the one or more initial images of the initial bank note and the one or more second images of the counterfeit bank note are within the range of similarity;~~
 wherein the image extraction device is further configured to:
 ~~extract a front side initial image of the initial bank note in a first initial position;~~
 ~~extract a front side initial image of the initial bank note in a second initial position;~~
 ~~extract a back side initial image of the initial bank note in a first initial position; and~~
 ~~extract a back side initial image of the initial bank note in a second initial position.~~
5. (Currently Amended) The automatic teller machine of Claim 4, wherein the image extraction device is further configured to:
 extract a front side ~~second~~ subsequent ~~image of the counterfeit bank note in a first~~ subsequent position;

extract a front side ~~second~~ subsequent image ~~of the counterfeit bank note~~ in a second subsequent position;

extract a back side ~~second~~ subsequent image ~~of the counterfeit bank note~~ in a first subsequent position; and

extract a back side ~~second~~ subsequent image ~~of the counterfeit bank note~~ in a second subsequent position.

6. (Currently Amended) The automatic teller machine of Claim 5, wherein the comparison device is further configured to compare each ~~second~~ subsequent image ~~of the counterfeit bank note~~ in each subsequent position a plurality of times to a corresponding initial image ~~of the initial bank note~~.

7. (Canceled).

8. (Currently Amended) The automatic teller machine of Claim ~~[[3]]~~ 1, wherein the comparison device is further configured to analyze image characteristics using a Euclid distance formula, and further configured to determine whether the one or more initial images ~~of the initial bank note~~ and the one or more ~~second~~ subsequent images ~~of the counterfeit bank note~~ have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.

- 9-11. (Canceled).

12. (Currently Amended) A method of tracing bank notes, comprising the steps of:
receiving a deposit of an initial bank note;
extracting one or more initial images from the initial bank note ~~using a sensor~~;
attaching an initial transaction log to the one or more initial images;
receiving one or more ~~second~~ subsequent images of a counterfeit bank note ~~using the same sensor~~, which is physically the same bank note as the initial bank note after having been identified as counterfeit bank note, wherein the step of receiving one or more subsequent images comprises receiving a deposit of a subsequent bank note;
extracting one or more subsequent images from the subsequent bank note;

comparing the one or more initial images of the initial bank note to the one or more ~~second~~ subsequent images of the counterfeit bank note by calculating values indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result; and

retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note ~~and the one or more second images of the counterfeit bank note~~ are within a range of similarity to the one or more subsequent images of the counterfeit bank note.

wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device.

13. (Canceled).

14. (Currently Amended) The method of Claim 12, wherein the step of extracting one or more initial images comprises:

extract a front side initial image ~~of the initial bank note~~ in a first initial position;

extract a front side initial image ~~of the initial bank note~~ in a second initial position;

extract a back side initial image ~~of the initial bank note~~ in a first initial position; and

extract a back side initial image ~~of the initial bank note~~ in a second initial position.

15. (Canceled).

16. (Currently Amended) The method of Claim 15, wherein the step of extracting one or more subsequent images ~~of the counterfeit bank note~~ comprises:

extract a front side ~~second~~ subsequent image ~~of the counterfeit bank note~~ in a first subsequent position;

extract a front side ~~second~~ subsequent image of the counterfeit bank note in a second subsequent position;

extract a back side ~~second~~ subsequent image of the counterfeit bank note in a first subsequent position; and

extract a back side ~~second~~ subsequent image of the counterfeit bank note in a second subsequent position.

17. (Currently Amended) The method of Claim 16, wherein the step of comparing comprises comparing each ~~second~~ subsequent image ~~of the counterfeit bank note~~ in each subsequent position a plurality of times to a corresponding initial image ~~of the initial bank note~~.
18. (Original) The method of Claim 12, wherein the one or more initial images include a unique characteristic that is specific to only one bank note, wherein the initial bank note is the only one bank note with the unique characteristic, wherein the unique characteristic includes other information besides a serial number of the initial bank note.
19. (Currently Amended) The method of Claim 12, wherein the step of comparing comprises:
 - analyzing image characteristics using a Euclid distance formula; and
 - determining that the one or more initial images ~~of the initial bank note~~ and the one or more ~~second~~ subsequent images ~~of the counterfeit bank note~~ have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.
20. (Original) The method of Claim 12, wherein the steps of the method are stored on a computer-readable medium as one or more instructions for tracing bank notes, wherein the one or more instructions, when executed by one or more processors, cause the one or more processors to perform the steps of the method.